Take Test: Quiz 3.1

Test Information

Description	
Instructions	
Multiple Attempts	This test allows multiple attempts.
Force Completion	This test can be saved and resumed later.

QUESTION 1 **1 points** Saved

What is a state?

- ○ A complete set of parameters required to specify all constants in the system.
- ◉ A complete set of variables required to account for storage of mass, momentum, and energy in a system.
- ○ An nth order differential equation.
- ○ Position and velocity in a spring-mass-damper-system.

QUESTION 2 **1 points** Saved

True or false? A state must be a scalar.

- ○ True

- (●) False

QUESTION 3

1 points Saved

Which of the following best describes the relationship between state-space and transfer function modeling?

- ( ) State-space models are derived from physical laws, whereas transfer functions are not.
- (●) The two models are complementary.
- ( ) The two models are inconsistent.
- ( ) State-space modeling is more accurate than transfer function models.

QUESTION 4

1 points Saved

Which of the following could be elements of the state of an RLC circuit with

Question Completion Status:

1 2 3 4

- ( ) The applied voltage $v(t)$ and the voltage across the capacitor $v_c(t)$.
- (●) The current $i(t)$ and the voltage across the capacitor $v_c(t)$.
- ( ) The values of R and L
- ( ) The initial value of the current, $i(0)$, and the voltage across the capacitor $v_c(0)$.

Click Save and Submit to save and submit. Click Save All Answers to save all answers.

Save All Answers Save and Submit